




Cabarrus County Information Technology

Overview for
Board of Commissioners
April 7, 2015


Mission

- ▶ Deliver quality technology services that
 - ▶ PROMOTE enterprise information processes
 - ▶ PROVIDE access to information resources and
 - ▶ PROTECT information integrity.
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Vision

- ▶ The Cabarrus County ITS Department will be recognized as a leader in providing enterprise technology services on a secure, highly available and resilient infrastructure in support of Cabarrus County citizens, business processes and public safety services.

Goals

- ▶ **PROMOTE** enterprise information processes by partnering with our customers to deliver quality technology services that effectively and efficiently align with the goals of Cabarrus County.
 - ▶ **PROVIDE** access to information resources by providing reliable secure applications and technology infrastructure.
 - ▶ **PROTECT** enterprise information integrity through planning, standards and process management.
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Promote

Enterprise Information Processes

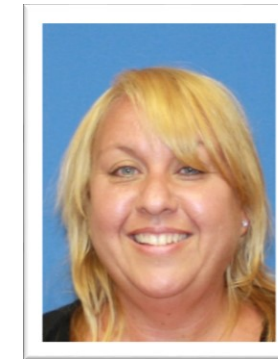
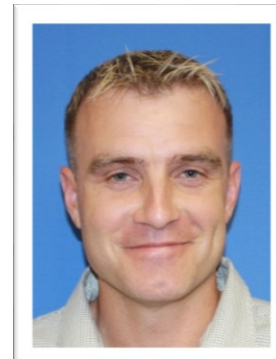
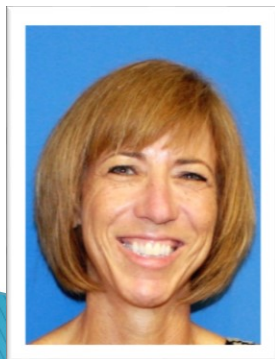
Quality Technology Services
Partnerships
Efficiencies

PROMOTE Enterprise Information Processes

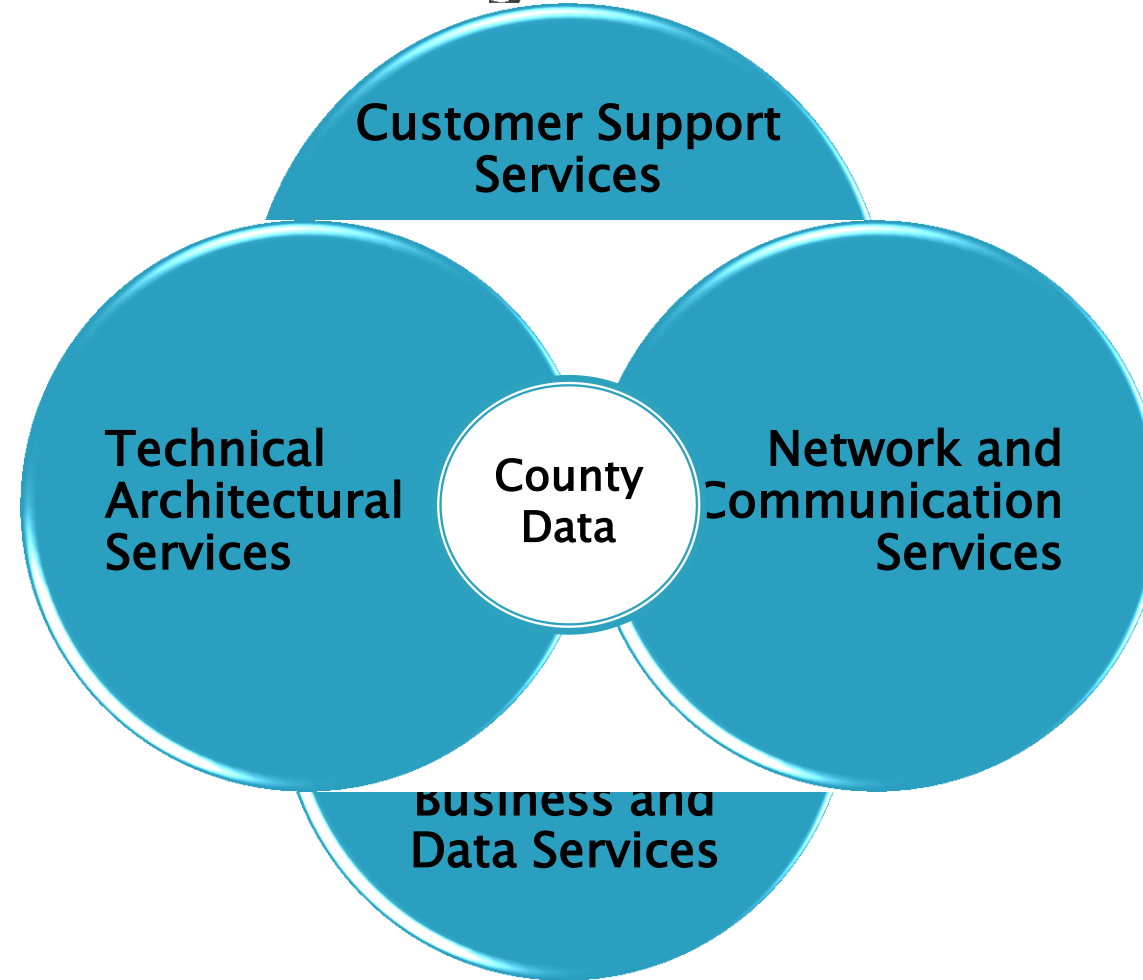
Quality Technology Services

ITS Organization

- ▶ Director – Debbie Brannan
- ▶ Manager – Todd Shanley
- ▶ **Business and Data Services** – Brad Eudy supervises 6 Team Members
- ▶ **Technical Architecture Services** – Jason Reece supervises 5 Team Members
- ▶ **Network and Communication Services** – Greg Keller supervises 2 Team Members
- ▶ **Customer Support Services** – Monica Bayha supervises 4 Team Members



PROMOTE Enterprise Information Processes
Quality Technology Services
ITS Organization



PROMOTE Enterprise Information Processes Quality Technology Services Awards



- ▶ Center for Digital Government National Digital Counties Survey
Ranked 2nd in 2014 – Ranked 8th in 2012 and 2013



- ▶ Local Government Federal Credit Union
Excellence in Innovation Award



- ▶ Centralina Council of Governments
Region of Excellence Award Controlling the Cost of Government



- ▶ The National Association of Counties
Achievement Award



***PROMOTE* Access to Information Resources**

Local and Regional Partnerships

▶ **E-911**

- Maintain Consolidated PSAP (Public Safety Answering Point) Infrastructure for Cabarrus County Sheriff, Concord Police and Kannapolis Police Departments
- Provide Backup Site for CCSO, CPD, KPD and Union County 911.
- Provide Temporary location for KPD During Their Relocation

▶ **GIS**

- E911 Address
 - Provide Addressing Application to Municipalities to Ensure Standardization
 - Host Consolidated Addressing Data for County and Municipalities
- Oblique Imagery
 - Provide data to all Municipalities
 - Provide Pictometry Online Access to Municipalities at per seat cost
- Map Data shared with Municipalities, Regional Partnerships and State

***PROMOTE* Access to Information Resources**

Partnerships

▶ Planning, Permits, Inspections and Enforcement

- ACCELA Plan Review Process for Municipalities
- ACCELA Inspections Cabarrus Health Alliance – Septic Systems
- ACCELA Hosting for City of Concord

▶ Fire

- Volunteer Fire Departments Firehouse Hosting
- Volunteer Fire Departments Mobile Computing Services

▶ Online Reservations and Registrations

- Cabarrus County Schools
 - Cooperative Extension Services
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PROMOTE Access to Information Resources Partnerships

▶ **Datacenter Services**

- Kannapolis City Schools
- Cabarrus County Schools



▶ **Managed Services Contracts**

- Kannapolis City Schools Network Managed Services
- Kannapolis City Schools Infrastructure Managed Services
- Cabarrus Health Alliance MUNIS Hosting Services
- City of Concord ACCELA Hosting Services

▶ **CTY Mass Notification Services**

- Negotiated Shared Contract for more favorable rates for Municipalities

PROMOTE Access to Information Resources Efficiencies and Cost Savings

- ▶ Partnerships Create Cost Avoidance for Citizens of Cabarrus County
 - City of Concord Accela Hosting
 - Cabarrus Health Alliance MUNIS Hosting
 - Shared Datacenter Infrastructure with Schools
 - Joint Blackboard Contract with Municipalities
 - Volunteer Fire Department Mobile Computing
 - Consolidated E911 Infrastructure for Geographically dispersed PSAPs
 - Providing KPD E911 PSAP a temporary location
 - School Elementary Park Online Reservations

PROMOTE Access to Information Resources Technology Creates Efficiencies

- Schools – Improved datacenter operations, KCS improved network operations
- Sheriff – Gun Permit Conceal to Carry Processing – reduce time to process permit, improve customer service
- Sheriff – Video Visitation – Improved customer service for attorneys, reduction in prisoner movement, improved security
- Sheriff – EMS – Automatic Vehicle Locator – Improved emergency dispatch and response times
- Sheriff – In Car Cameras – Improved officer and citizen safety
- EMS – 12 Leads – Improved Heart Attack Survival Rate
- EMS – Tablets – Access to forms and information in field – reduction of paper, improved processes
- EM – Firehouse for Volunteer Fire Dept and integration with OSSI – Improved reporting for Fire Marshall
- Courts – Video First Appearance – Improved court processes and reduction in prisoner movement, improved security
- DSS – CRC Database – No wrong door for community, improved customer service
- DSS – Northwoods Training and Process Improvements – improved customer services
- DSS – CoPilot Mobile iPad – improved employee access in field, improve customer service and processes, reduce paper
- Elections – Polling place finder – reduced public calls to BOE, improved customer service
- Active Living and Parks – Parks Finder – increase park usage, improve customer service
- Enterprise – New employee orientation – reduce time to get new employees productive, increase security awareness
- Enterprise – Finance – HR – IAM – Risk Mgt – MUNIS ERP System Modules
 - Employee Self Service – Improve HR customer Service and provide employee access to payroll information
 - Vendor Self Service – Improve Finance customer service and processes
 - Contract Processing – Improve contract approval workflow process
 - FMLA Processing – Improve HR and PR processes
 - Substance Abuse Testing – Improve HR processes
 - Online Employment Applications and Applicant Processing – Improve applicant access to jobs and HR process
 - Fleet Management – Integrated fleet inventory and accounting
 - Work order and asset management – Improved processes and communication
- Finance – TylerForms GoDocs – reduce printing of with electronic PO, invoices, PR and AP checks, reduce postage
- Enterprise – Constant Contact – Electronic Newsletter – Improved customer communication and measurement
- Enterprise – Survey Monkey – Surveys improved communication, measurement and program improvement
- Enterprise – Mass Notification Services – Blackboard connect and Desktop Alertus – Emergency Alert and Public Message
- Enterprise – MFP Secure Release Print Services – Reduction in printing and paper expense, ability to release at any printer
- Enterprise – HR – PR – Annual Performance Appraisal Notification – Increase number of on time employee appraisals
- Enterprise – New and improved Intranet – Improved employee's ability to find forms, policies, and procedures
- Enterprise – Event Management System – Centralized event management with ability to feed both intra and internet
- Enterprise – GIS Maps and Aps Portal – Public access increase transparency and citizens interaction with departments
- Enterprise – Co-location datacenter. Operating key governmental and public safety systems in parallel at two different sites significantly reduces the risk of a localized disaster rendering key systems and technology services inoperable.
- IAM – Secure Door Badge Access – Reduce expenses for rekeying doors when keys are lost
- Communication and Outreach – Facebook and Twitter and Youtube – improved citizen communication and awareness
- Planning – Electronic Plan Review – Improved customer access and service, reduce paper storage requirements
- Planning – Construction Standards Table Field Application –
 - Improved process and customer service
- Planning – Citizen Access provided for Online Permitting and Inspection – Improved process and customer access
- Revaluation – Tablets – Access to GIS and Reval data in field – reduction of printing and paper, improved processes
- Emergency Management – Integration of Volunteer Fire Departments with Firehouse and mobile access
- Emergency Management – Upgrade video wall – Improve usage
- Library – integrated library software with CTY for automated calling for books on hold and overdue books – save staff time
- Transportation – Tablets in VAN for AVL / Routematch software routing for improved mileage

Provide

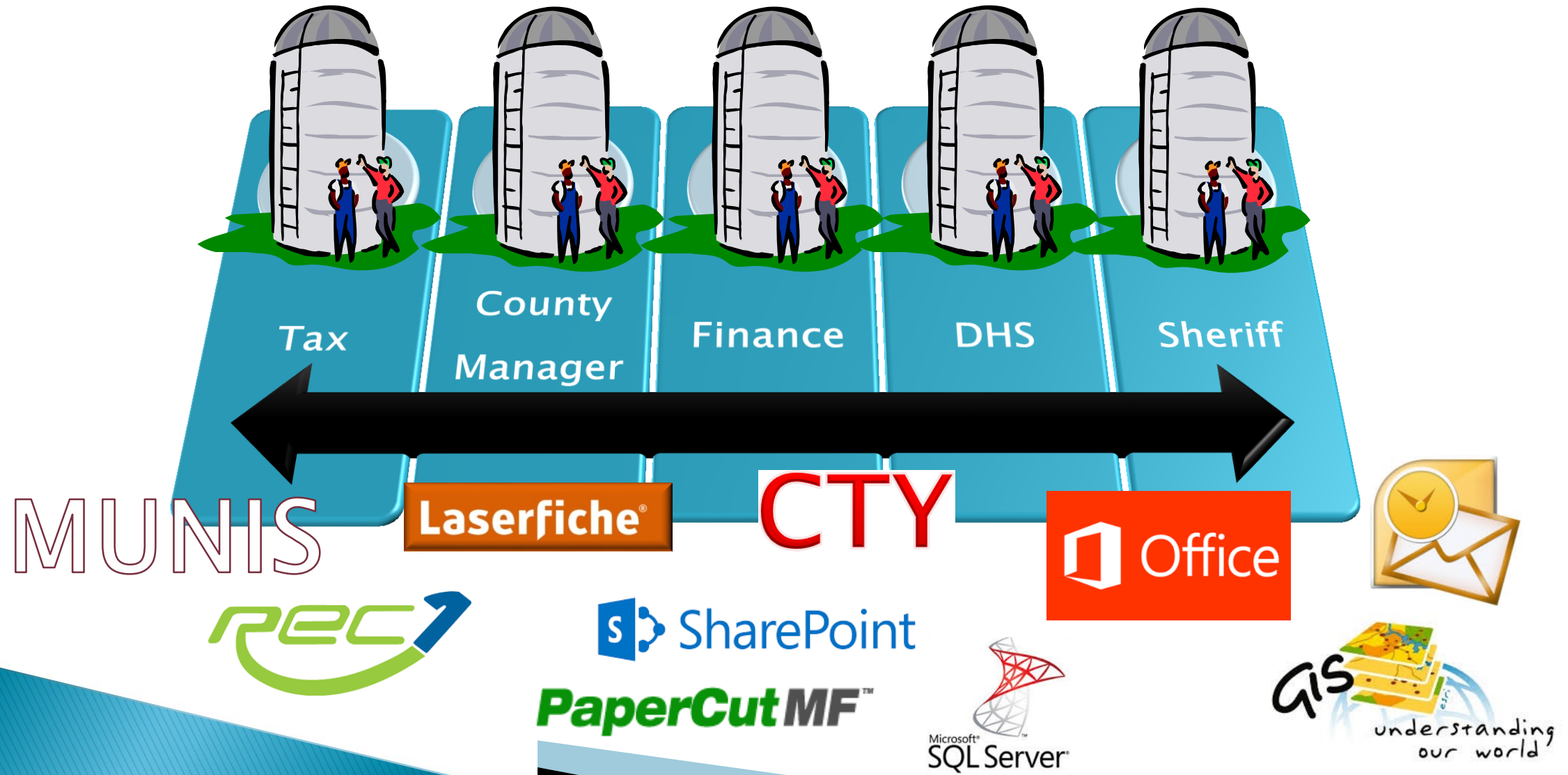
Access To Information Resources

Applications

Technology Infrastructure



PROVIDE Access to Information Resources Through Enterprise Applications



PROVIDE Access to Information Resources Applications and Data Supported

- ▶ 160+ Custom Software Applications
- ▶ 50+ Vendor on Premise and Cloud Applications
- ▶ 220+ Databases
- ▶ 445+ GIS Map Data Layers
- ▶ 900+ Users Licensed for Desktop Software
- ▶ 3,500 Average Number of Daily Unique Visits to Website
- ▶ \$5.9+ Million Revenue Collected in FY14 Online Payments
Tax, SF Gun Permits, Reservations and Registrations, Permits and Inspections

PROVIDE Access to Information Resources

Public Internet Applications

[Agendas and Minutes](#)
[Audit Budget](#)

Laserfiche Weblink provides the Internet gateway to the [County's archive document center.](#)

[Citizen Access](#)

Permitting and Inspection application used by [Planning and Development.](#)
Research or request permits and inspection

[CTY Blackboard Connect](#)

Cabarrus County's notification system. Sign up to receive messages via phone, email, text

[Elections Polling Place Finder](#)

Cabarrus County's Election Polling Places application helps citizens locate their election polling place, and obtain information about current elected officials

[Employment Applications](#)

[Search available positions](#) and complete an [online application.](#)

[Finance Vendor Self-Service](#)

Search POs, checks and invoices. View [Finance](#) messages and links. Access documents, such as vendor direct deposit forms

[Foreclosures](#)

Cabarrus County property tax foreclosure sales

PROVIDE Access to Information Resources

Public Internet Applications

<u>GIS Interactive Mapping</u>	Geographic Information Systems. Interactive mapping site offering current accurate data aggregated from multiple County enterprise systems
<u>Library Catalog</u>	Browse the Cabarrus County <u>Library System</u> catalog
<u>Library Catalog – Kids</u>	Browse media specific to kids within the Cabarrus County <u>Library System</u> catalog
<u>Open Data Site</u>	View and download shapefiles, tax tables, and pdf maps. The shapefiles and tables are exported from County databases, so the public has full access to up-to-date information
<u>Parks and Recreation Locator</u>	Find Parks and Recreation facilities by location with details of amenities offered
<u>Rec1</u>	Reserve facilities and register for classes
<u>Register of Deeds Online</u>	Document repository offering images and data maintained by <u>Register of Deeds</u> and hosted by Logan Systems, Inc. of Greensboro, NC

PROVIDE Access to Information Resources

Public Internet Applications

<u>Sheriff Active Warrants</u>	Search active warrant data maintained by the <u>Sheriff's office</u>
<u>Sheriff Gun Permits</u>	Apply for a Concealed Handgun Permit (New or Renewal), complete an application and make an appointment online
<u>Sheriff Incident and Accidents</u>	Incident and Accident database maintained by the <u>Sheriff's office</u> .
<u>Sheriff Inmate Visitation</u>	Register and schedule visitation with current inmates
<u>Tax Appraisal Inquiry</u>	Current appraisal data maintained by the <u>Revaluation</u> division of <u>Tax Administration</u>
<u>Tax Bill Payment</u>	Pay tax bills
<u>Tax Billing Inquiry</u>	Historical tax bill information including current collection data
<u>Tax Real Estate Inquiry</u>	Real estate information
<u>ZixCorp Secure Email</u>	To send us a secure encrypted email, use the <u>Secure Email Message Center</u>

PROVIDE Access to Information Resources Infrastructure Supported

► Data Network Hardware

- 13 Core Network Switches
- 177 Branch switches
- 3 Firewalls
- 8 Wireless Controllers
- 478 Wireless Access Points
 - 39 CCG
 - 439 KCS



► Voice Network Hardware

- 5 Voice Switches
- 720 Phones CCG
- 400 Phones KCS



PROVIDE Access to Information Resources Infrastructure Supported

▶ Security Hardware

- 34 Door Access Controllers
- 157 Door Card Access Readers
- 1 Door Access Controller
- 500+ Security Cameras
- 50 In Car Cameras
- 32 Digital Video Recorders



▶ Server Hardware

- 135 Virtual Servers
- 25 Physical Servers



PROVIDE Access to Information Resources Infrastructure Supported

► Desktops – 1188

- 540 Virtual Desktops
- 211 PC Desktops
- 437 Mobile Desktops
 - Laptops
 - Tablets



► Storage Area Networks

- 3 Systems with 134 Hard Drives 119 Terabytes
 - 2 Primary Storage system one in each of our datacenters
 - Sheriff Dedicated System for Video Visitation and CID

Protect

Access To Information Resources

Standards
Process Management
Planning

PROTECT Enterprise Information Processes Standards

**ITS Reviews All Projects That Require Technology
to ensure plans meet enterprise standards**

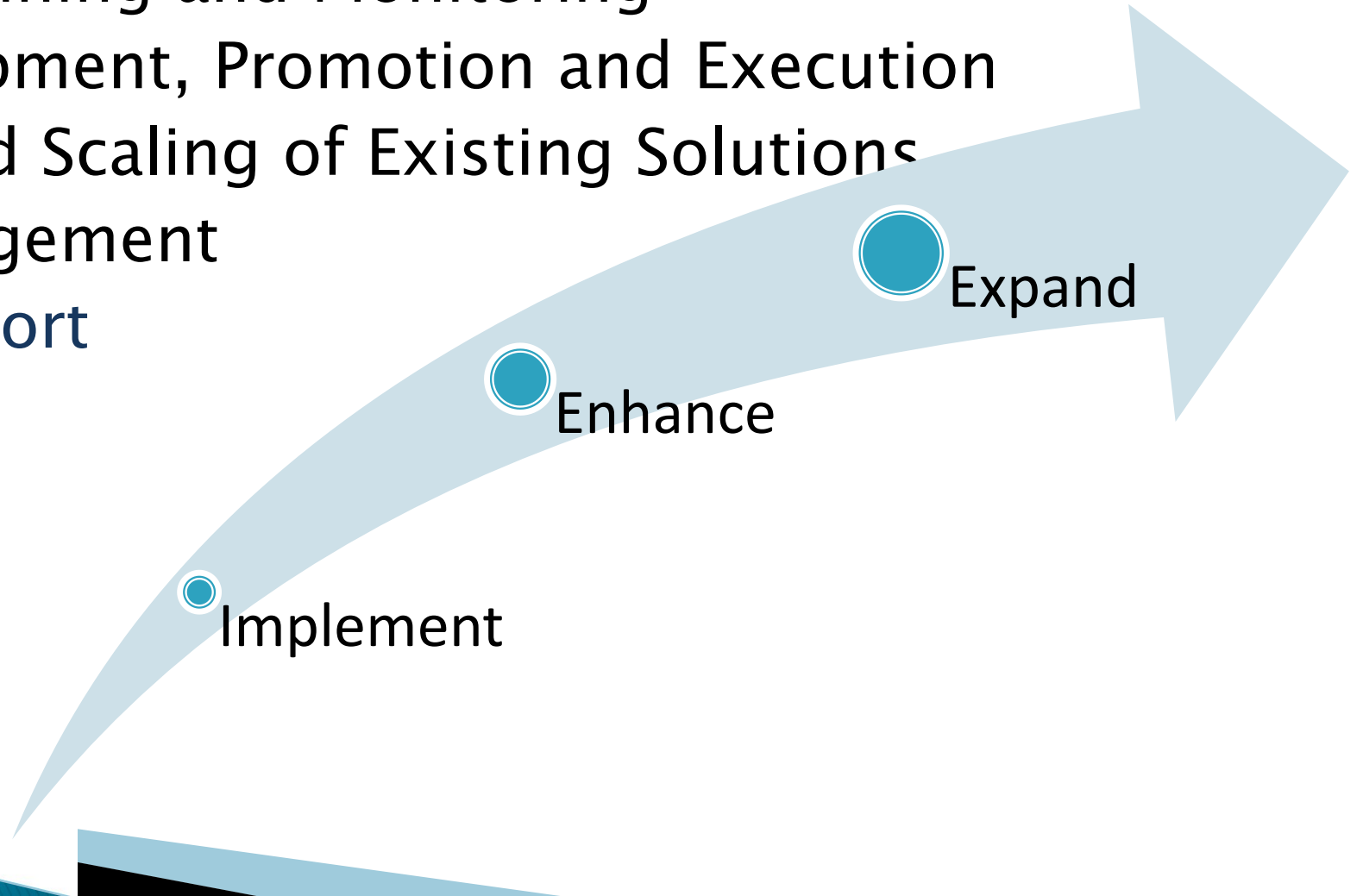
ITS Budgets for

- Data Center Operations
- Technology Refreshes
- Hardware and Maintenance
- Software and Maintenance
- Voice and Data Network
- Mobility Network Services
- Internet Access
- Multi-functional Printers



PROTECT Enterprise Information Processes Process Management

- ▶ Application Tuning and Monitoring
- ▶ Policy Development, Promotion and Execution
- ▶ Promotion and Scaling of Existing Solutions
- ▶ Change Management
- ▶ Upgrade Support
- ▶ Innovation



PROTECT Enterprise Information Processes Planning For Future

► CHALLENGES & TRENDS

- Cyber Security Threats
- Hire Train & Retain IT Personnel
- Shared Services
- Budget and Cost Control
- Mobility and Mobile Applications
- Disaster Recovery and Continuity of Operations
- Open Government, Transparency and Open Data
- Virtualization: Server, Desktop, Storage, Applications
- Broadband and Connectivity
- Governance, Data Center Consolidation and Cloud Computing



PROTECT Enterprise Information Processes Planning for Cyber Security

Cabarrus County technology personnel recently conducted a State of IT Security Analysis with a Security Vendor. Key findings and recommendations are being addressed in FY16 budget requests; hardware, software and additional positions.

► **Security Concerns**

- Maintain Compliance – HIPAA, PCI, CJIS
- Breaches – Phishing emails, URLs
- Data Loss & Security
- Mobile Device Management
- BYOD – Users Using Personal Devices
- Publicly Accessible Systems
- Web Applications
- Vendor Applications
- Onboarding / Off Boarding

► **Sensitive Data**

- ePHI
- Credit Card via Swipe Terminals
- HR/Employee PII
- Source Code
- Legal
- Economic Development
- Video Recordings



PROTECT Enterprise Information Processes Planning for Cyber Security

- ▶ With the ever increasing cyber security threats we must move to a **Protection, Detection and Response** security posture.
- ▶ It is no longer a question of if we get a virus but when we get a virus or security breach.
- ▶ We now need to analyze and monitor data coming into and going out of our systems.
- ▶ Currently we do not have dedicated personnel for a security team. We are leveraging the network and system architects team members to support security.
- ▶ There is not enough time to properly maintain security policies, processes and controls.
- ▶ Combined responsibilities present potential conflicts of interest between primary duties and security controls.

PROTECT Enterprise Information Processes

Planning for Cyber Security

- ▶ Recommend to hire a Security Architect that can focus on the security architecture as part of IT and work with departments and customers to:
 - Enhance current security processes and develop new processes
 - Manage, utilize and monitor current and future security controls
 - Provide incident response to identified malware and security breaches
 - Review and conduct formal security awareness program
 - Perform Cloud Risk Assessment for current and future cloud usage
 - Define requirements for Identity Management solution
 - Implement and manage Identity Management solution and validate integration with systems
 - Monitor database administrator access and maintain security patches
 - Develop a Risk Acceptance program
 - Develop a Data Loss Prevention Solution to document sensitive data and monitor outbound traffic
 - Develop Data Governance for who should have access to what data
 - Enhance Endpoint Protection to reduce risk of breaches
 - Security Log Monitoring
 - Review and update security policies and procedure.
 - Ensure proper policies in for all compliance regulations – HIPAA, PCI, CJIS
 - Create an Incident Response Plan
 - Extend Mobile Device Management to BYOD and Personal devices
 - Implement Application Security Testing software.
 - Train developers on best practices secure coding.
 - Develop a solution that can tokenize or replace sensitive data used during development and testing.

PROTECT Enterprise Information Processes

Planning For Jail Security Support

- ▶ The current analog security camera network and door access control systems were installed as part of the Jail construction project in 2010 and was managed by an outside vendor as part of a comprehensive outsourced facilities management contract which was not renewed in 2012.
- ▶ Maintenance of the security camera and door access control systems were transferred to the ITS department. The additional duties were absorbed by ITS with no additional staff to the detriment of other county departmental support due to high priority and criticality of these systems.
- ▶ The proprietary design of the current system offers no upgrade path and the current equipment is approaching end of life. A FY16 CIP request has been submitted to upgrade the Jail Security System.

PROTECT Enterprise Information Processes

Planning For Jail Security Support

- ▶ The hardware, operating system, and control software needs to be replaced and integrated with door access and security camera controls.
- ▶ The analog DVRs and cameras have multiple failures per month and are being maintained with replacement parts found online.
- ▶ DVR storage is located in multiple areas on failing DVRs and should be centralized on the Storage Area Network for increased reliability and easier search and retrieval of video incidents.
- ▶ The analog camera system should be replaced with an IP system with all analog cameras transitioning to IP cameras over the next 3 years. The total for this CIP project is an estimated at almost \$900,000.
- ▶ An ITS Technician has been requested in the FY16 budget. This position is essential in order to ensure that this CIP project is successful and this high profile security system is properly maintained.



Cabarrus County Information Technology

Promote Provide Protect

Questions and Comments